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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/097,221	06/12/98	BERTRAM R	LINAB-48525

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EXAMINER	
NOLAN, S	
ART UNIT	**PAPER NUMBER**
1772	11

DATE MAILED: 01/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/097,221	BERTRAM
Examiner	**Group Art Unit**
Sandra Nolan	1772

☒ Responsive to communication(s) filed on *Oct. 23, 2000*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *16-46* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *16-46* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *8*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement submitted on September 18, 2000 (Paper No. 8) was considered by the examiner. A copy of the initialed form PTO 1449A is enclosed.

Claims

2. Claims 16-46 are pending.

The independent claims can be summarized as follows:

Claim 16 is directed to a composite material for a loop-shaped structure, which composite has a plurality of regions and comprises:

a. A porous substrate,

b. A thermoset material bonded to pores in the substrate,

c. A third region proximal to b and containing the same material as b with a curing agent,

d. A fourth region proximal to c comprising a reactive resin that is reacted and boded with some of the curing agent in c, and

e. A fifth region comprising a high tensile strength thermoplastic material having some the s reactive resin of d impregnated into it,

wherein b-d are chemically bonded together and have shear strength sufficient to transmit loads from a to e, so that it reinforces the structure.

Claim 28 is to a load bearing structure comprising the composite of claim 16.

Claim 36 is to a method of lining a conduit comprising:

-impregnating the face of a thermoplastic sheet with a reactive resin that bonds with a curing agent;

-positioning the sheet inside a conduit leaving some space between it a the conduit's surface;

-inserting a mixture of thermosetting material between the sheet and the surface; and

-allowing the thermosetting material to bond with the curing agent within the space and allowing the face of the sheet to chemically bond with the curing agent of the thermosetting material, such that the sheet and the material bond so that loads are transmitted an distributed from the surface to the sheet to reinforce the conduit.

The dependent claims add limitations to: the nature of the thermoplastic material (claims 17, 30, 38); the physical character and function of the thermoplastic material (claims 18, 23, 24, 32, 33, 35, 43, the nature of and constituents in the thermosetting material (claims 19-20, 22, 26, 27, 29, 37, 39-40, 42, 44- 46), the nature and location of the reactive resin (claim 21, 25, 41), and the properties of the conduit (claims 31, 34).

Rejections Maintained

3. The 35 USC 103 rejection of claims 16-25, ~~27-43~~ 28-37, 39-43 and 45-46*, as unpatentable over Offill (US 5,817,200) in view of Rosemund et al (US 4,060,439) and Muller et al (US 5,029,615), as set out in paragraph 7 of the April 18, 2000 Office Action (Paper No. 7), is maintained for the reasons made of record there.

*The Examiner notes that claim numbers where not listed when the rejection was originally stated in Paper No. 7.

4. The 35 USC 103 rejection of claims 26-and-44-(now-claims-~~26~~, 28 and 44) as unpatentable over Offill (US 5,817,200) in view of Rosemund et al (US 4,060,439) and Muller et al (US 5,029,615) further in view of Ranney et al (US 4,015,044), as stated in paragraph 8 of Paper No. 7 is maintained for the reasons set out there.

Response to Arguments

5. Applicant's arguments filed in the response of October 23, 2000 (Paper No. 10) have been fully considered but they are not persuasive.

The basis of the section 103 rejection is the teachings of Offill and Rosemund. Offill shows a PVC liner and a resinous interlayer between the liner and the pipe or other structure. Rosemund et al deals with polyurethane foams that may be used to bond mineral containing substrates to PVC. The foams contain catalysts, surfactants, blowing agents and curing agents.

Applicant seeks to distinguish his claims from the Offill patent by:

a) inserting a limitation re: the chemical bonding of the third, fourth, and fifth regions and the transmission of loads therebetween.

b) arguing that the liner of Offill is not bonded to the carrier material.

As to a), the properties now recited in the independent claims re: load transmission are considered inherent. The bonded layers formed when the liner suggested by the combination of Offill and Rosemond et al are used would inherently have the load transmitting properties claimed.

The resin matrix employed in Offill's interlayer and his PVC liner would operate in the same way as Applicant's liner and interlayers.

Where, as here, the claimed and prior art products are substantially identical in structure or composition, or are produced by substantially identical processes, a *prima facie* case of obviousness has been established. See MPEP 2112.01.

Responsive to b), Offill's liner is bonded to the carrier material. That bond is with the outwardly projecting members of the liner.

The office acknowledges that Rosemund does not teach a thermoplastic liner. Offill teaches it.

The secondary reference to Muller is cited only for the teaching of the presoaking of a liner with a resin before it is placed in a pipe. It is not necessary that it contain the other limitations of Applicant's claims.

The Ranney patent was cited only to show the conventionality of using silanes with polyurethane sealants. It does not teach the other limitations of claims 24, 28 or 44.

As to the limitations in Applicant's dependent claims, Applicant has not presented objective evidence to show that such features as the shape of the conduit, the use of silanes, the use of urethanes, the identity of the reactive resin, surfactant, sources of hydroxyl ions, PVC and/or tensile strength thereof and the structure and interaction of the layers produce unexpected results over the conduits suggested by the combination of references applied above.

Lastly, the Examiner notes that Applicant has argued each of the references individually and has not discussed what their teachings, when combined, can be said to suggest. See MPEP 2145 (IV).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra M. Nolan, whose telephone number is (703) 308-9545. The examiner can normally be reached on Monday through Thursday from 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ellis P. Robinson, can be reached on (703) 308-2364. The fax phone number for the organization where this application is assigned is (703) 305-5408.

The telephone number for the receptionist is (703) 308-0661.

RENA L. DYE
PRIMARY EXAMINER
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SMN/smn
December 28, 2000
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